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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,708	11/24/2003	Madjid F. Nakhjiri	CE09292R	5371

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EXAMINER	
BAUGH, APRIL L	

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/720,708	NAKHJIRI ET AL.	
	Examiner	Art Unit	
	April L Baugh	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,4-21,23-27,29 and 32 is/are pending in the application.

4a) Of the above claim(s) 2,3,22 and 28 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,4-21,23-27,29 and 32 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims 1, 17, 27, and 29 have been amended and claims 2-3, 22, and 28 are canceled therefore claims 1, 4-21, 23-27, 29-32 are now pending.

Response to Arguments

1. Applicant's arguments filed 9/30/04 have been fully considered but they are not persuasive. Applicant argues that Barna et al. does not teach conveying the PPP context information and conveying the traffic information occur concurrently. However it is the examiner's opinion that Barna et al. teaches the above limitation (page 2, section 0015-0016).

The Applicant defines concurrently within the arguments filed 9/30/04 on page 10, 3rd paragraph to mean "(i.e., simultaneously **or** at least without substantial delay therebetween)." Barna et al. teaches, '...establishing a data tunnel...between PDSN-1 and PDSN-2; passing data from PDSN-1 through the data tunnel to the MS during the handoff procedure, and monitoring by PDSN-1 the volume of data being passed through the tunnel. *When the handoff procedure is completed*, PDSN-2 requests that the tunnel be torn down. *This followed by* sending from PDSN-1 to PDSN-2, and indication of the volume of data that was passed through the tunnel during the handoff procedure'. It is the examiner's opinion that at the completion of the handoff the request to tear down the tunnel is immediate and thus PDSN-1 must transfer an indication of the volume of data that was transferred immediately to PDSN-2 before the tunnel is torn down which corresponds with the applicants definition of concurrently of 'at least without substantial delay

therebetween'. Examiner will also further present a rejection under 35 U.S.C. 103(a) US Pub. 2002/0046277 to Barna et al in view of Madour US Pub. 2002/0021681 to further show the lack of novelty of amended independent claims 1, 17, 27, and 29.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim1-10 & 17-32 rejected under 35 U.S.C. 102(e) as being unpatentable by US 2002/0046277 to Barna et al.

Regarding claim 1, Barna et al. teaches a method for point-to-point protocol (PPP) link handoff comprising: communicating, by a source access router (AR), with a remote unit via a PPP communication link, wherein PPP context information is associated with the PPP communication link; determining that a PPP link handoff from the source AR to a target AR should occur; and conveying the PPP context information to the target AR; and conveying traffic information via a tunnel between the source AR and the target AR, wherein conveying the PPP context information and conveying the traffic information occur concurrently (page 2, section 0015-0016, page 3, section 0027, and page 4, section 0034-0037).

Regarding claim 17, Barna et al. teaches a method for point-to-point protocol (PPP) link handoff comprising: receiving, by a target access router (AR), PPP context information from a source AR; and establishing, by the target AR, a PPP link between the target AR 5 and a remote unit using the PPP context information; and receiving traffic information via a tunnel between the source AR and the target AR, wherein receiving the PPP context information and receiving the traffic information occur concurrently (page 2, section 0015-0016 and page 4, section 0034-0037).

Regarding claim 27, Barna et al. teaches a source access router (AR) comprising: a network interface; and a processor, communicatively coupled to the network interface, adapted to communicate with a remote unit via a PPP communication link via the network interface, wherein PPP context information is associated with the PPP communication link, adapted to determine that a PPP link handoff from the source AR to a target AR should occur, and adapted to convey the PPP context information to a target AR via the network interface, and a tunnel between the source AR and the target AR, wherein the PPP context information and the traffic information are conveyed concurrently (page 2, section 0015-0016 and page 4, section 0034-0037).

Regarding claim 29, Barna et al. teaches a target access router (AR) comprising: a network interface; and a processor, communicatively coupled to the network interface, adapted to receive, via the network interface, PPP context information from a source AR and adapted to establish, via the network interface, a PPP link between the target AR and a remote unit using the PPP context information, and adapted to receive traffic information via the network interface and a tunnel between the source AR and the target AR, wherein the PPP context information and

receiving the traffic information occur concurrently (page 2, section 0015-0016 and page 4, section 0034-0037).

Regarding claim 4, Barna et al. teaches the method of claim 2, further comprising: determining when the tunnel between the source AR and the target AR will expire based on a tunnel lifetime; and extending the lifetime of the tunnel in order to convey the PPP context information (page 2, section 0015-0016 and page 4, section 0034 and 0036).

Referring to claim 5, Barna et al. teaches the method of claim 1, wherein conveying the PPP context information comprises conveying the PPP context information when a period of low remote unit data activity begins (page 4, section 0035-0036).

Regarding claim 6, Barna et al. teaches the method of claim 1, wherein PPP context information comprises timer information used for PPP operation (page 1, section 0008 and page 4, section 0035-0036).

Regarding claim 7, Barna et al. teaches the method of claim 1, wherein conveying the PPP context information comprises conveying only types of PPP context information that are applicable to the target AR (page 4, section 0035-0036).

Regarding claim 8, Barna et al. teaches the method of claim 7, further comprising requesting, by the source AR, target AR capabilities from the target AR (page 4, section 0034-0035).

Referring to claim 9, Barna et al. teaches the method of claim 7, further comprising sending, by the source AR, an indication of which types of context information are being conveyed (page 4, section 0035-0036).

Regarding claim 10, Barna et al. teaches the method of claim 7, further comprising maintaining, by the source AR, a record of the target AR's capabilities (page 4, section 0034-0035).

Referring to claim 18, Barna et al. teaches the method of claim 17, further comprising negotiating, by the target AR with the remote unit, PPP parameters not received by the target AR from the source AR (page 5, section 0040-0043).

Regarding claim 19, Barna et al. teaches the method of claim 18, further comprising: determining that at least a portion of the PPP context information is not applicable to the target AR; and negotiating, by the target AR with the remote unit, PPP parameters corresponding to the PPP context information determined to not be applicable to the target AR (page 5, section 0040-0043).

Referring to claim 20, Barna et al. teaches the method of claim 17, further comprising sending, by the target AR, capabilities of the target AR to the source AR (page 4, section 0034-0035).

Regarding claim 21, Barna et al. teaches the method of claim 17, wherein the beginning of a period of low remote unit data activity triggers establishing the PPP link (page 4, section 0035-0036).

Regarding claim 23, Barna et al. teaches the method of claim 22, further comprising determining when the tunnel will expire based on a tunnel lifetime, wherein establishing the PPP link comprises establishing the PPP link based on when the tunnel will expire (page 2, section 0015-0016 and page 4, section 0034 and 0036).

Referring to claim 24, Barna et al. teaches the method of claim 22, further comprising determining when the tunnel will expire based on a tunnel lifetime and extending the lifetime of the tunnel in order to establish the PPP link before the tunnel expires (page 2, section 0015-0016 and page 4, section 0034 and 0036).

Regarding claim 25, Barna et al. teaches the method of claim 22, further comprising: establishing a network layer link between the target AR and the remote unit using the PPP link (page 2, section 0015-0016 and page 4, section 0034-0036).

Referring to claim 26, Barna et al. teaches the method of claim 25, further comprising: tearing down the tunnel between the source AR and target AR after establishing the network layer link (page 4, section 0037).

Referring to claim 30, Barna et al. teaches the target AR of claim 29, the processor is further adapted to negotiate, with the remote unit via the network interface, PPP parameters not received by the target AR from the source AR (page 5, section 0040-0043).

Regarding claim 31, Barna et al. teaches the target AR of claim 29, wherein the target AR comprises a packet data serving node (PDSN) (page 3, section 0027).

Regarding claim 32, Barna et al. teaches the target AR of claim 29, wherein the target AR comprises a GPRS gateway support node (GGSN) (page 3, section 0027).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 17, 27, and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. 2002/0046277 to Barna et al in view of Madour US Pub. 2002/0021681.

Regarding claim 1, Barna et al. teaches a method for point-to-point protocol (PPP) link handoff comprising: communicating, by a source access router (AR), with a remote unit via a PPP communication link, wherein PPP context information is associated with the PPP communication link; determining that a PPP link handoff from the source AR to a target AR should occur; and conveying the PPP context information to the target AR; and conveying traffic information via a tunnel between the source AR and the target AR (page 2, section 0015-0016, page 3, section 0027, and page 4, section 0034-0037).

Barna et al. does not teach wherein conveying the PPP context information and conveying the traffic information occur concurrently. Madour teaches wherein conveying the PPP context information and conveying the traffic information occur concurrently (page 1, section 0010-0011). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by wherein conveying the PPP context information and conveying the traffic information occur concurrently because this reduces interruptions, failures, and delays.

Regarding claim 17, Barna et al. teaches a method for point-to-point protocol (PPP) link handoff comprising: receiving, by a target access router (AR), PPP context information from a source AR; and establishing, by the target AR, a PPP link between the target AR 5 and a remote unit using the PPP context information; and receiving traffic information via a tunnel between the source AR and the target AR (page 2, section 0015-0016 and page 4, section 0034-0037).

Barna et al. does not teach wherein receiving the PPP context information and receiving the traffic information occur concurrently. Madour teaches wherein receiving the PPP context information and receiving the traffic information occur concurrently (page 1, section 0010-0011). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by wherein receiving the PPP context information and receiving the traffic information occur concurrently because this reduces interruptions, failures, and delays.

Regarding claim 27, Barna et al. teaches a source access router (AR) comprising: a network interface; and a processor, communicatively coupled to the network interface, adapted to communicate with a remote unit via a PPP communication link via the network interface, wherein PPP context information is associated with the PPP communication link, adapted to determine that a PPP link handoff from the source AR to a target AR should occur, and adapted to convey the PPP context information to a target AR via the network interface, and a tunnel between the source AR and the target AR (page 2, section 0015-0016 and page 4, section 0034-0037).

Barna et al. does not teach wherein the PPP context information and the traffic information are conveyed concurrently. Madour teaches wherein the PPP context information and the traffic information are conveyed concurrently (page 1, section 0010-0011). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by wherein the PPP context information and the traffic information are conveyed concurrently because this reduces interruptions, failures, and delays.

Regarding claim 29, Barna et al. teaches a target access router (AR) comprising: a network interface; and a processor, communicatively coupled to the network interface, adapted to receive, via the network interface, PPP context information from a source AR and adapted to establish, via the network interface, a PPP link between the target AR and a remote unit using the PPP context information, and adapted to receive traffic information via the network interface and a tunnel between the source AR and the target AR (page 2, section 0015-0016 and page 4, section 0034-0037).

Barna et al. does not teach wherein the PPP context information and receiving the traffic information occur concurrently. Madour teaches wherein the PPP context information and receiving the traffic information occur concurrently (page 1, section 0010-0011). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by wherein the PPP context information and receiving the traffic information occur concurrently because this reduces interruptions, failures, and delays.

5. Claim 11-16 rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0046277 to Barna et al. in view of Applicant Admitted Prior Art (AAPA).

Regarding claim 11, Barna et al. teaches the method of claim 7, wherein conveying the PPP context information (page 4, section 0035-0036).

Barna et al. does not teach of sending parameters. AAPA teaches sending parameters selected from the group consisting of SYNC-MAP, PROTOCOL_FIELDCOMPRESSION, ADDRESS FIELD COMPRESSION, MRU, Magic number, Van Jacobson Header Compression, AUTH TYPE, the target AR Internet Protocol (IP) Address, Mobile IP (MIP)

Flag, PPP in-activity timer, and PPP session timer (page 3, lines 10-20). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by sending parameters selected from the group consisting of SYNC-MAP, PROTOCOL_FIELDCOMPRESSION, ADDRESS FIELD COMPRESSION, MRU, Magic number, Van Jacobson Header Compression, AUTH TYPE, the target AR Internet Protocol (IP) Address, Mobile IP (MIP) Flag, PPP in-activity timer, and PPP session timer because the above options are negotiated to establish a new PPP link between a mobile user and a new PDSN and therefore sending these parameters to the new PDSN eliminates some or all of the negotiation process and thus reduce setup time and bandwidth that must be allocated to exchange negotiation messages.

Regarding claim 12, Barna et al. teaches the method of claim 7, wherein conveying the PPP context information (page 4, section 0035-0036).

Barna et al. does not teach sending only link control parameters and network control parameters. AAPA teaches sending only link control parameters and network control parameters (page 2, lines 5-9 and page 3, lines 21-24). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by sending only link control parameters and network control parameters because the above options are negotiated to establish a new PPP link between a mobile user and a new PDSN and therefore sending these parameters to the new PDSN eliminates some or all of the negotiation process and thus reduce setup time and bandwidth that must be allocated to exchange negotiation messages.

Regarding claim 13, Barna et al. teaches the method of claim 7, wherein conveying the PPP context information (page 4, section 0035-0036).

Barna et al. does not teach sending only link control parameters and authentication parameters. AAPA teaches sending only link control parameters and authentication parameters (page 2, lines 5-19). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by sending only link control parameters and authentication parameters because the above options are negotiated to establish a new PPP link between a mobile user and a new PDSN and therefore sending these parameters to the new PDSN eliminates some or all of the negotiation process and thus reduce setup time and bandwidth that must be allocated to exchange negotiation messages.

Referring to claim 15, Barna et al. teaches the method of claim 7, wherein conveying the PPP context information (page 4, section 0035-0036).

Barna et al. does not teach sending link control parameters, authentication parameters, and network control parameters. AAPA teaches sending link control parameters, authentication parameters, and network control parameters (page 2, lines 5-24). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the method of PPP link handoff of Barna et al. by sending link control parameters, authentication parameters, and network control parameters because the above options are negotiated to establish a new PPP link between a mobile user and a new PDSN and therefore sending these parameters to the new PDSN eliminates some or all of the negotiation process and thus reduce setup time and bandwidth that must be allocated to exchange negotiation messages.

Regarding claim 14, Barna et al. teaches the method of claim 13, wherein a header compression scheme supported by the target AR is not known by the source AR to match a header compression scheme used by the source AR for the PPP communication link (page 4, section 0034-0037).

Referring to claim 16, Barna et al. teaches the method of claim 15, wherein a header compression scheme supported by the target AR is known by the source AR to match a header compression scheme used by the source AR for the PPP communication link (page 4, section 0034-0037).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are cited to further show the state of the art with respect to PPP link handoff in general: Verma et al.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April L Baugh whose telephone number is 571-272-3877. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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RUPAL DHARIA
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